

**What Is Claimed Is:**

1           1.    A triggering method for IP multimedia service  
2 control, comprising the steps of:

3           examining a Session Initial Protocol (SIP) response  
4           message received by a Serving Call Session Control  
5           Function (S-CSCF) according to a set of response  
6           Filter Criteria (rFC), comprising specific responses  
7           triggering individual application services  
8           available from a service provider; and

9           re-issuing a corresponding SIP request message to an  
10          application server designated by the rFC if the SIP  
11          response message matches Service Point Triggers  
12          (SPTs) of the rFC.

1           2.    The triggering method according to claim 1, further  
2 comprising setting up a list of SPTs of the rFC for matching the  
3 SIP response message.

1           3.    The triggering method according to claim 2, wherein  
2 the SPTs of the rFC are defined by:

3           SIP response code;  
4           an SIP method of the corresponding SIP request message;  
5           a content of a header field or request-URI of the  
6           corresponding SIP request message; and  
7           a direction of the corresponding SIP request message.

1           4.    The triggering method according to claim 1, wherein  
2 the S-CSCF examines the SPTs of the rFC one by one according to  
3 their indicated priority.

4           5.     The triggering method according to claim 1, further  
5     comprising recording the SIP request message when the SIP  
6     response message matches the SPTs of the rFC.

1           6.     The triggering method according to claim 1, further  
2     comprising the steps of:

3           examining an SIP request message received by the S-CSCF  
4           according to a set of initial Filter Criteria (iFC);  
5           and  
6           re-issuing the SIP request message to an application server  
7           designated by the iFC if the SIP request message  
8           matches Service Point Triggers (SPTs) the iFC.

1           7.     The triggering method according to claim 6, wherein  
2     the S-CSCF examines the SPTs of the rFC or iFC one by one  
3     according to their indicated priority.

1           8.     The triggering method according to claim 1, wherein  
2     the rFC are stored in a Home Subscriber Server (HSS) as part of  
3     the user profile.

1           9.     The triggering method according to claim 1, wherein  
2     the rFC are downloaded to the S-CSCF upon user registration.

1           10.    The triggering method according to claim 1, wherein  
2     the application server is an SIP application server.

1           11.    The triggering method according to claim 1, wherein  
2     the application server is an Internet Protocol (IP) Multimedia  
3     Service Switching Function (IP-SSF).

1       12. The triggering method according to claim 1, wherein  
2 the application server is an Open Service Access (OSA) Service  
3 Capability Server (SCS).

1       13. The triggering method according to claim 1, wherein  
2 the triggering method is applied when the application servers  
3 are selected depending on a content of the SIP response message.

1       14. The triggering method according to claim 13, wherein  
2 the SIP response message represents a connection status is line  
3 busy.

1       15. The triggering method according to claim 13, wherein  
2 the SIP response message represents a connection status of  
3 destination unreachable or not found.

1       16. The triggering method according to claim 13, wherein  
2 the SIP response message represents a connection status of call  
3 setup failure.

1       17. An Internet Protocol (IP) multimedia subsystem,  
2 comprising:

3       a Serving Call Session Control Function (S-CSCF),  
4       receiving a Session Initial Protocol (SIP) response  
5       message, examining the SIP response message  
6       according to a set of response Filter Criteria (rFC),  
7       comprising specific responses triggering individual  
8       application services available from a service  
9       provider; and

10      an application server, receiving a corresponding SIP  
11      request message from the S-CSCF if Service Point

12 Triggers (SPTs) of the rFC matches the SIP response  
13 message.

1 18. The IP multimedia subsystem according to claim 17,  
2 wherein the SPTs of the rFC are defined by:  
3 SIP response codes;  
4 an SIP method of the corresponding SIP request message;  
5 a content of any header field or request-URI of the  
6 corresponding SIP request message; and  
7 a direction of the corresponding SIP request message.

1 19. The IP multimedia subsystem according to claim 17,  
2 wherein the S-CSCF examines the SPTs of the rFC one by one  
3 according to their indicated priority.

1 20. The IP multimedia subsystem according to claim 17,  
2 wherein the S-CSCF records the corresponding SIP request message  
3 when the SIP response message matches the SPTs of the rFC.

1 21. The IP multimedia subsystem according to claim 17,  
2 wherein the S-CSCF examines an SIP request message received by  
3 the S-CSCF according to a set of initial Filter Criteria (iFC)  
4 and re-issuing the SIP request message to an application server  
5 designated by the iFC if the SIP request message matches Service  
6 Point Triggers (SPTs) of the iFC.

1 22. The IP multimedia subsystem according to claim 21,  
2 wherein the S-CSCF examines the SPTs of the rFC or iFC one by  
3 one according to their indicated priority.

1       23. The IP multimedia subsystem according to claim 21,  
2 wherein the S-CSCF selectively disables the function of  
3 examining the rFC.

1       24. The IP multimedia subsystem according to claim 17,  
2 further comprising a Home Subscriber Server (HSS) for storing  
3 the rFC as part of the user profile.

1       25. The IP multimedia subsystem according to claim 17,  
2 wherein the rFC are downloaded to the S-CSCF upon user  
3 registration.

1       26. The IP multimedia subsystem according to claim 17,  
2 wherein the application server is an SIP application server.

1       27. The IP multimedia subsystem according to claim 17,  
2 wherein the application server is an Internet Protocol (IP)  
3 Multimedia Service Switching Function (IP-SSF).

1       28. The IP multimedia subsystem according to claim 17,  
2 wherein the application server is an Open Service Access (OSA)  
3 Service Capability Server (SCS).

1       29. The IP multimedia subsystem according to claim 17,  
2 wherein the application servers are selected depending on a  
3 content of the SIP response message.

1       30. The IP multimedia subsystem according to claim 29,  
2 wherein the SIP response message represents a connection status  
3 of line busy.

1           31. The IP multimedia subsystem according to claim 29,  
2 wherein the SIP response message represents a connection status  
3 of destination unreachable or not found.

1           32. The IP multimedia subsystem according to claim 29,  
2 wherein the SIP response message represents a connection status  
3 of call setup failure.